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Scientific Procedure in the Discovery of Musical Talent in the Public Schools

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Musical talent is a gift but like many of the gifts of nature it often remains concealed and a natural musical genius may "die with all the music in him." Experimental psychology has found no more clear-cut and successful field of application for the measurement of talent for the purpose of vocational guidance than is that now being developed in the psychology of music.

For the last fifteen years there has been a group of research students working under my direction in the psychological laboratory to discover and invent methods and means of measuring the musical talent. The work is proceeding in a systematic way being based upon an analysis of what constitutes musical talent. It is found that those capacities which enable us to hear, appreciate, and produce music may be grouped under certain large heads, such as the sensory capacities, motor capacities, musical intelligence, and musical feeling. Each of these are subdivided into more or less elemental factors each of which can be isolated and controlled under experimental conditions for measuring. Thus there is growing up in this laboratory a system of scientific measurement for the purpose of vocational guidance in music. A con-

crete illustration of one of these measurements may be found in volume one, number one, of the *Musical Quarterly* (Schirmer, New York).

While most of these measurements must be made upon a single individual at a time and with accurate instruments, many of them may be made in a large class room of fifty, a hundred, or even five hundred students at a time. The plan is to use the class room tests for preliminary finding and then employ the finer individual tests upon the few most interesting and significant cases which are caught in this first dragnet. Among the class tests are quantitative measurements on the ability to hear pitch, tonal memory, the sense of consonance, tonal imagery, and the time sense. These are fundamental and are quite certain to reveal the presence of unusual talent or conspicuous absence of talent. At the present time we are working on methods and training investigators who can go into the public school and take the music class from day to day and make each of these tests in successive music periods. The tests will serve a double purpose;—first, the record of the individual is obtained; and second, the test con-

stitutes a most excellent intensive exercise in the function which is being measured, such as the sense of time, the memory of tone, pitch hearing, and consonance. Indeed, it is proposed that these exercises be repeated from time to time purely for the purpose of the intensive training in discriminative hearing and in the eradication of errors which are nearly always passed over in a slovenly way in musical instruction. For this purpose every effort is made to simplify the instruments and methods so that they may be placed in the hands of the regular music teacher or supervisor. In most cases no special instrument other than a musical instrument will be required.

Two purposes will be served by these preliminary measurements. Among, *e. g.* the ten per cent of the best ones in the class are quite likely to be persons who have had no musical training whatever nor had any awareness of their talent. It is no small thing to be able to call these out, verify by further tests and open to them a new world of appreciation and power perhaps undreamt of. The writer has had a most thrilling joy in the discovery of such unsuspected latent talent. On the other hand among the poorest ten per cent or more one is likely to find those who are by nature totally unfit for musical appreciation or production and who might, for that reason, be excused from the school exercises which are not adapted to them. And this is not a negative process for, if rightly done, there should be with it a searching for other talent that these may have, which they should be encouraged in for their enjoyment and profit.

In the laboratory we are working out norms by which records may be interpreted, and developing principles of vocational guidance so that when careful measurements are made by an expert in this field he may give thoroughly reliable advice, not only with regard to whether to pursue or not to pursue a musical career but also to point out particular adaptations, limitations, needs, prospects, methods of control, etc., which may guide the prospective musician into a successful career.

At the present time we are making such measurements on a class of three hundred university students, for each of which a musical talent chart will be made out and cases of special interest may be investigated in more detail. Our immediate plan for the second semester is to continue on a large scale the measurement of children of the various grades in the public schools of Iowa.

We are now prepared to make professional tests in the laboratory on persons who are planning seriously to consider a musical career. These tests may be simple or elaborate as the needs may be. A professional musical education is a very large investment and it is a small matter to go to a little expense for the purpose of making a psychological inventory of the musical capacities so that the pupil may know exactly what capital he or she may have to invest.

Perhaps in the near future we may return to these columns with a series of articles describing in turn each of the tests which are now under sufficient control to be of service to the supervisor of music in the public schools.